

### ABSTRACT OF THE DISCLOSURE

To provide a power supply apparatus for an electric vehicle wherein the insulation of a power supply line for supplying a drive voltage to an electric motor can be simplified and the cost for the insulation can be reduced. A power supply apparatus for an electric vehicle includes batteries for driving a motor and general electric parts. An node A of an intermediate voltage of 24 V between a drive voltage of 48 V of the batteries and the ground voltage is connected to a ground line for the general electric parts. An inverter produces a voltage to be applied to the general electric parts based on the drive voltage of 48 V of the batteries and the intermediate voltage of 24 V. By adjusting the duty ratio of the inverter, a voltage of AC 24 V or AC 12 V can be applied to the general electric parts.